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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,534	08/20/2001	David A. Grilli	TRW(AP)5727	5816

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TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P.
1300 EAST NINTH STREET, SUITE 1700
CLEVEVLAND, OH 44114

EXAMINER	
KIM, CHONG HWA	

ART UNIT	PAPER NUMBER
3682	

DATE MAILED: 10/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/933,534	GRILLI ET AL.	
	Examiner	Art Unit	
	Chong H. Kim	3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5-12 and 14-28* is/are pending in the application.

4a) Of the above claim(s) *19-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5-12 and 14-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I in the reply filed on Sep 5, 2006 is acknowledged. The traversal is on the ground(s) that the product as claimed cannot be made by another and materially different process. This is not found persuasive because an injection-molding process in a product claim is a process that is not given patentable weight. See MPEP 2113. Furthermore, such injection-molding process is not recited in any of the product claims. It appears that the product as claimed can be made by hand or manually by wrapping or covering the foamed thermoplastic elastomer around the rim and/or spokes core/s.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 19-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on Sep 5, 2006.

Claim Objections

3. Claims 9, 10, 16, and 17 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 9 and 16 recite the end product, the gasified chemical foaming agent, with the intermediate product that is in the form of granules encapsulated with a resin carrier prior to being gasified. Claims are drawn to an end product of

the steering wheel. The intermediate product as recited in claims 9, 10, 16, and 17 does not further limit the end product.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3, 5-12, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishijima et al., U.S. Patent 4,738,157 in view of Koseki et al., U.S. Patent 5,702,810.

Nishijima et al. shows, in Figs. 1-4, a steering wheel comprising a rim portion 12, a spoke portion 16, and a foamed elastomer padding material 54, 56 substantially covering the rim portion having a first thickness and covering the spoke portion having a second thickness different from the first thickness, but fails to show the foamed elastomer padding material made of polyolefin polymer having an inner foam layer that is expanded by gasified chemical foaming agent and an outer layer free of interruption by a cell, and a durometer shore A hardness of about 30 to about 90.

Koseki et al. discloses, in Figs. 1-3, a steering wheel (col. 1, line 19) comprising a rim portion (inherent), a spoke portion (inherent), and a weatherable foamed thermoplastic polyolefin elastomer padding material 3 (col. 4, lines 55-65) including an inner portion 3 and an outer portion 4, the inner portion having a cellular structure and a substantially uniform cell density, the outer portion having a continuous external surface free of interruption by a cell (col. 9, line

54, a non-expanded surface material 4 is equivalent to a surface without any cell), the foamed thermoplastic polyolefin elastomer padding material comprising a gasified chemical foaming agent (a blowing agent as described in col. 8, lines 15-33); wherein the thermoplastic polyolefin elastomer includes a thermoplastic polyolefin polymer, polyethylene or polypropylene; wherein the thermoplastic polyolefin elastomer further includes another thermoplastic elastomer or rubber (col. 4, lines 56-65); wherein the foamed padding material is plasticizer-free (inherent if the material is polyolefin elastomer); wherein the chemical foaming agent comprises an exothermic chemical foaming agent or an endothermic chemical foaming agent, or a mixture thereof (col. 8, lines 15-33); wherein the foamed padding material further includes an additive such as fillers and colorants.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the RIM polyurethane elastomer of Nishijima et al. which is a thermoset resin with the thermoplastic polyolefin elastomer as taught by Koseki et al. in order to be able to recycle so that material can be saved and reduce pollution.

As to the matter of the hardness, Koseki et al. discloses in claim 1 that A-hardness according to JIS K6301 should be between 50 to 100. It would have been obvious to a person of ordinary skill in the art that to make the hardness of the polyolefin elastomer of Koseki et al. to meet the durometer shore A hardness requirement between 30 to 90, since such a modification would have involved a mere change in the time and temperature during the hardening process. A discovery of optimum ranges within prior art general condition is generally recognized as being within the level of ordinary skill in the art. *In re Aller et al.,* 105 USPQ 233.

As to the matter of the mixture in claims 6 and 14, it would have been obvious to make the thermoplastic polyolefin elastomer of Koseki et al. with a mixture of ethylene-propylene copolymer, ethylene-propylene-dien terpolymer, and polypropylene, since such modification would have involved a mere change in the mixture that is readily available to the public. A selection of known material based on its suitability for the intended use is generally recognized as being within the level of ordinary skill in the art. *In re Leshin*, 125 USPQ 416.

As to the matter of claims 9, 10, 16, and 17, applicant is reminded that although the product by process claim is permissible, the process in which the product is made cannot be given patentable weight in a product claim. Therefore, since the limitation "the chemical foaming agent prior to being gasified is in the form of a plurality of granules that are encapsulated with a resin carrier" is a process in which the padding material on the steering wheel is made, it is not given patentable weight. See MPEP 2113. Even if such process claim is given patentable weight, the usage of such intermediate product would be obvious to a person of ordinary skill in the art since it is well known in the art of foaming that the 'micro-sphere", as it is normally called, can be used to form the cell/foam/void in making the thermoplastic elastomer padding material.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Polyolefin elastomer padding material.

Itoh et al., U.S. Patent 5,901,615

Hamanaka et al., U.S. Patent 5,187,224

Steering wheel having PVC or polyurethane foam padding material.

Young, Jr. et al., U.S. Patent 3,802,291

Haldenwanger et al., U.S. Patent 5,178,036

Hofer et al., U.S. Patent 6,164,691

Ohta et al., U.S. Patent 4,579,775

Abiko et al., U.S. Patent 5,204,043

Koizumi et al., U.S. Patent 5,576,368

Mizuno et al., U.S. Patent 6,479,114 B2

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chong H. Kim whose telephone number is (571) 272-7108. The examiner can normally be reached on Monday - Friday; 6:00 - 2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

chk
October 25, 2006

CHONG H. KIM
PRIMARY EXAMINER